

## ABSTRACT

A thermoelectric device with an improved thermal efficiency has an object to be heated or cooled having a surface, at least one electrically conductive lower pad  
5 bonded directly to the surface of the object using a thermally conductive dielectric material, at least one thermoelectric element coupled on one end to the electrically conductive pad, at least one electrically conductive upper pad coupled to an opposite end of the thermoelectric element, and electrical power connections coupled to the device.